

### **REMARKS/ARGUMENTS**

Reexamination of the captioned application is respectfully requested.

#### **A. SUMMARY OF THIS AMENDMENT**

By the current amendment, Applicants basically:

1. Thank the Examiner for the allowance of claims 2-6, 11-13 and 27-29.
2. Cancel claims 9, 10 and 28 without prejudice or disclaimer.
3. Amend the dependency of dependent claim 11, so that dependent claim 11 (and claims 12 – 13) is/are now dependent upon allowed independent claim 2.
4. Amend the dependency of dependent claim 29, so that dependent claim 29 is now dependent upon allowed independent claim 27.
5. Amend independent claim 30.
6. Amend the dependency of claims 32-33, believing that enumerated paragraph 2 of the office action intended to refer to dependent claims 32 and 33 as having incorrect dependency, rather than dependent claims 31 and 32.
7. Add new dependent claim 34.
8. Add new independent claim 35.
9. Respectfully traverse all prior art rejections.

#### **B. PATENTABILITY OF THE CLAIMS**

Claim 30 stands rejected under 35 USC 102(e) as being anticipated by U.S. Publication 2003/0025587 to Whitney et al. Claims 9-10 and 32-33 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2003/0025587 to Whitney et al in view of U.S. Patent 6,762,481 to Liu et al. Independent claim 9 has been cancelled without prejudice or disclaimer as above noted. The only independent claims thus at issue are amended independent claim 30 and new independent claim 35. All prior art

rejections are respectfully traversed, and new independent claim 35 is deemed patentable, for at least the following reasons.

As amended, independent claim 30 specifies that a read-out resistance value of a nonvolatile variable resistance body varies by applying a voltage pulse between the first electrode and the second electrode. For example, the voltage for read-out, which has a smaller value than that of the voltage pulse (please refer to p.5, lines 20- of the specification), can be constant to read out different resistance values of the nonvolatile variable resistance body. Moreover, the resistance value of the resistance body of independent claim 30 is ***nonvolatile***.

New independent claim 35 specifies that, upon applying a (at least one) voltage pulse between the first electrode and the second electrode, the read-out resistance value varies ***reversibly*** and is read-out at a voltage between the electrodes. Again please note that the resistance value of the resistance body of independent claim 35 is ***nonvolatile*** so that it is suitable for a nonvolatile memory cell.

Whitney teaches only a non-variable resistor between the electrodes 156 and 158, and does not teach a voltage variable material (VVM) “between” electrodes 156 and 158 electrodes. Note, for example, Whitney Fig. 6B wherein a layer of VVM 152 is applied over the assembly to form the VVM resistor. Normally current flows through the resistor 154, not through the VVM 152. If one were to interpret Whitney as having VVM between the electrodes, a read-out resistance value of the VVM would be just a function of a voltage between the electrodes (or a current flowing through the VVM), with the resultant adverse effect that the VMM would be a ***volatile*** resistor (and thus completely contrary to Applicants’ nonvolatile claim requirement). That Whitney’s VVM is not between electrodes is further attested by the operation of Whitney described on page 7, first column, wherein the resistance values of the VMM are different in two cases: a first

case in which no EOS transient is present and a second case where an ESD event takes place.

Accordingly, amended independent claim 30 and new independent claim 35 are deemed patentable over the applied prior art.

New dependent claim 34 has been added to specify that the second electrode is concentric about the first electrode. The subject matter is amply supported, e.g., by the figures. Such limitation is not taught or suggested by U.S. Publication 2003/0025587 to Whitney or U.S. Patent 6,762,481 to Liu et al.

### **C. MISCELLANEOUS**

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

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**Atty Dkt:** 4074-10  
**Art Unit:** 2827

Respectfully submitted,  
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